

A NEW COMBINATION IN ANTENNARIA
(ASTERACEAE: GNAPHALIEAE) FROM NORTH AMERICA

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ABSTRACT

Antennaria pulcherrima subsp. *eucosma* (Fernald & Wiegand) R.J. Bayer, comb. nov., is based on *Antennaria eucosma* (Fernald & Wiegand) from North America. The new combination is essential as a result of the expansion of the circumscription of *A. pulcherrima* to include *A. eucosma*.

RESUMEN

Antennaria pulcherrima subsp. *eucosma* (Fernald & Wiegand) R.J. Bayer, comb. nov., se basa en *Antennaria eucosma* (Fernald & Wiegand) de Norteamérica. La nueva combinación es esencial como resultado de la extensión de la circunscripción de *A. pulcherrima* para incluir *A. eucosma*.

INTRODUCTION

In preparation for publication of my treatment of *Antennaria* Gaertn. for the *Flora of North America North of Mexico*, I came to re-evaluate *Antennaria pulcherrima* (Hook.) Greene, an amphimictic species, occurring as diploid ($2n = 28$) and tetraploid ($2n = 56$) cytotypes from Colorado to Alaska, east to Ontario, and parts of western Quebec. It appears to be uniformly tetraploid throughout its range in Canada and Alaska (Urbanska 1983), but four diploid populations are known from Montana (one population), Wyoming (one population), and Colorado (two populations) (Bayer & Stebbins 1987). Apparently, *A. pulcherrima* arose in the U.S. Rockies as a diploid and presumed derived autotetraploid cytotypes spread north into Canada and Alaska post glaciation. It is generally found in moist willow thickets throughout its range (Urbanska 1983; Bayer & Stebbins 1987). Porsild (1943) suggested that *A. pulcherrima* is restricted to calcareous soils; this has never been empirically demonstrated (Urbanska 1983). *Antennaria eucosma* Fernald & Wiegand is a narrow endemic restricted to limestone and serpentine barrens on the island of Newfoundland and Anticosti Island, Quebec. Like the Canadian populations of *Antennaria pulcherrima*, *A. eucosma* is amphimictic and tetraploid (Urbanska 1983; Bayer & Stebbins 1987). Its morphological similarity to *A. pulcherrima* is obvious and the two are sepa-

rated primarily by the presence of prominent flags¹ in *A. pulcherrima* and their usual absence in *A. eucosma*.

Porsild (1943, 1965), who had quite a narrow species concept in *Antennaria*, treated *A. eucosma* as a synonym of *A. pulcherrima*. Urbanska (1983), who studied the ecology, cytology, and distribution of the *Pulcherrimae* group, while recognizing it as a distinct species, stated that, *A. eucosma* may represent nothing more than a specialized group of populations of *A. pulcherrima* with a distinct ecology. It has the same chromosome number as boreal populations of *A. pulcherrima* and its range is parapatric with that of *A. pulcherrima*. Furthermore, she suggested that *Antennaria eucosma* may have arisen via quantum speciation and genetic drift in geographically marginal populations of *A. pulcherrima* (Urbanska 1983). Ledyard Stebbins and I recognized *A. eucosma* as a distinct species (Bayer & Stebbins 1987, 1993), and we remarked on the problem of its circumscription as a distinct species (Bayer & Stebbins 1993).

Because *Antennaria eucosma* is also morphologically very similar to, and not always consistently distinct from, *A. pulcherrima*, it is best to recognize *A. eucosma* as an infraspecific taxon under *A. pulcherrima*. Stebbins and I applied the same set of taxonomic criteria when evaluating *A. luzuloides* Torr. & A. Gray subsp. *luzuloides* and *A. luzuloides* Torr. & A. Gray subsp. *aberrans* (E.E. Nelson) R.J. Bayer & Stebbins (= *A. microcephala* A. Gray); the two subspecies differ in their ecology, but are not adequately morphologically differentiated to warrant recognizing them as distinct at species rank (Bayer & Stebbins 1993). A scenario whereby marginal populations of tetraploid *A. pulcherrima* in Atlantic Canada, which may already have been adapted to calcareous soils, became genetically isolated and subsequently morphologically and ecologically differentiated from the central populations of *A. pulcherrima*, seems apparent.

TAXONOMY

Antennaria pulcherrima (Hook.) Greene subsp. *eucosma* (Fernald & Wiegand)

R.J. Bayer, comb. nov. *Antennaria eucosma* Fernald & Wiegand, *Rhodora* 13:23. 1911. TYPE: CANADA, NEWFOUNDLAND; Flora of Western Newfoundland, Region of Port au Port Bay, dry limestone barrens, upper slopes and tablelands, altitude 200–300 m. Table Mountain, 16 Aug 1910. *ML. Fernald & K.M. Wiegand 4144* (HOLOTYPE: GH; ISOTYPES, CAN., NY).

Antennaria carpatica (Wahlenb.) R.Br. var. *humilis* Hook., *Fl. Bor. Amer.* 1:329. 1834.

KEY TO THE SUBSPECIES OF *ANTENNARIA PULCHERRIMA*

Distal cauline leaves usually flagged; pistillate corollas 4.5–6.5 mm; staminate corollas 4–5 mm; wet habitats in willow thickets at subalpine elevations or subarctic in western North America from Colorado to Alaska, east to Ontario, parts of western Quebec _____ subsp. **pulcherrima**

¹Flags are flat, linear, scarious appendages of the leaf tips that are similar to the tips of the phyllaries, not to be confused with ordinary subulate or blunt leaf tips that are essentially green and herbaceous.

Distal cauline leaves mostly not flagged (sometimes flagged just proximal to heads); pistillate corollas 3–4.4 mm; staminate corollas 3–4 mm; limestone substrates in willow thickets of western Newfoundland and Anticosti Island, Quebec _____ subsp. **eucosma**

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